GEOGRAPHIC SCHOOL BULLETINS

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Frederick H. Simpson

NETHERLANDS INDIES NATIVES FACE INVASION FROM THE NORTH

Little more than three centuries after Netherlands conquerors from the west found the Indies, the rich islands of the Malay Archipelago are experiencing invasion again, as Japanese forces pour in. Among the seventy million people sharing the fate of this, the wealthiest colony of the Netherlands Empire, is this farmer of Bali, carrying a pig to market in the shade of his woven bamboo hat. Mountainous Bali, just one mile east of Java, is one of the middle-sized members of the Netherlands Indies island family (Bulletin No. 1).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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The Indies: 3,000 Miles of Populous, Productive Islands

IN THEIR drive against the Netherlands Indies, the Japanese have set themselves the task of conquering nearly seventy million people scattered over an ocean area of roughly 4,000,000 square miles.

In addition to dozens of "bits and pieces" the Netherlands Indies includes the five large islands of Sumatra, parts of Borneo and New Guinea, Celebes, and Java. Big and little, rich and insignificant, these islands stretch for over 3,000 miles in a broad band of stepping-stones from southeast Asia to Australia.

Three Islands Shared with Other Governments

Farthest west is the torpedo-shaped island of Sumatra, its small end pointed toward the Bay of Bengal and India. Farthest east is New Guinea (shared with Australia), plus smaller islands so placed as to form potential springboards for attack on north-central Australia. Timor, owned jointly by the Netherlands and Portugal, is less than 450 miles northwest of Darwin, Allied base of northern Australia. Big Borneo, which occupies a position a little off center among the islands, normally is shared between Great Britain and the Netherlands.

The political, economic, and social heart of the Netherlands Indies is the now heavily assailed island of Java. So prominent is Java's position in the Indies that all the other islands, with the exception of small Madoera near by, are referred to as Outer Provinces. With Madoera, Java has an area of about 51,000 square miles —approximately that of Alabama. Less than one-fourteenth of the entire territory of the Netherlands Indies, they hold between forty and fifty million people, about two-thirds of the inhabitants.

Most of Kapok for Uncle Sam's Life Preservers

On Java is situated Batavia, capital of the colony. This island contains the chief Indies seaport and naval base, Soerabaja, as well as other important military bases and centers of population, shipbuilding, and manufacture of war supplies. Peacetime Java was the hub of the Netherlands Indies trade and industry. Particularly noticeable there during prewar months was the acceleration of defense activities instead of the former emphasis on processing foodstuffs and other domestic raw materials.

One of the world's garden spots, the extraordinarily fertile island of Java normally raised for export much sugar, tapioca, vegetable oil, kapok, coffee, tea, and quinine-producing cinchona.

The proverbial wealth of the Indies, however, which has made them a prize of war and trade for nearly 500 years, is by no means limited to Java. Borneo and Sumatra accounted for about five-sixths of the roughly 680,000 metric tons of rubber collected in the Indies during the first ten months of 1941. Most of the tin supply (44,000 metric tons in 1940) is normally obtained from southern Sumatra and the near-by islands of Bangka and Billiton. From Borneo and Sumatra, and from small Ceram, came roughly 90 per cent of all the Netherlands Indies crude petroleum output of last year. Total production there was estimated at about 62 million barrels in 1941, a relatively small proportion of the world supply. Oil from the Indies, however, supplied a large share of Japan's needs, and, provided the "scorched earth" fields can be put back into operation, may prove significant in the future to a conqueror. Gold, coal, bauxite (for aluminum),

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Abrams Aerial Survey Corp.

THIS PUERTO RICAN SUGAR "CENTRAL" MAKES A BUSY ISLAND IN A PEACEFUL SEA OF CANE

Straight palm-bordered avenues cut through pale green acres of waving sugar cane to the *Central* Mercedita, near Ponce on the southern coastal plain of Uncle Sam's largest West Indies island. The *central* is a small and self-sufficient city, with homes, offices, stores, and a cluster of mill buildings. The industrial plant in its various units processes the cane into raw and refined sugar, rum, and molasses. The *central* is the center of square miles of fields which stretch in all directions. The lightest field (lower right) has just been cut over; the dark field above, lined with furrows, has just been planted. The other fields are shaggy with uncut cane, through which irrigation ditches zigzag. In the background foothills rise toward the island's backbone mountains (Bulletin No. 2).

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War Drafts Sugar for Double Duty

WHY is the sugar shortage? How serious will it be?

As millions of American housewives prepare to march into the schools of the nation to apply for War Ration Book One, these questions are asked.

War never fails to upset the sugar balance. It affects both demand and supply, with the increased need for sugar as the source of industrial alcohol for explosives, and as an energy-giving food for workers and fighters.

A nation at war is almost certain to have a decreased supply of sugar. This may be due to invasion of its own sugar-producing areas, to enemy action against import sources, or to the urgent needs of its allies. The U. S. today feels all three of these forces. They are heightened by the world scope of the war.

Five Loud Booms to an Acre

Today's large aerial bombs, submarine torpedoes, and artillery shells are ravenous consumers of sugar. Powder to fill five 16-inch shells requires alcohol from as much sugar as an acre of finest Cuban sugar land can produce. Increased production in Cuba in 1942 may reach the record total of 4,000,000 tons, but the urgent military and civilian needs of Britain, Russia, and Canada may result in little more than 1,000,000 tons of Cuba's 1942 crop reaching the United States. This contrasts with 2,696,000 tons last year.

This tonnage of sugar from Cuba was 34 per cent of the 1941 consumption —the greatest amount ever consumed in the U. S.—almost 8,000,000 tons, or 114 pounds for every man, woman, and child in the nation. Of this, 74 pounds per capita were consumed in the household, the other 40 pounds per capita in industry. Then, Puerto Rico (illustration, cover) and the Virgin Islands supplied 12½ per cent, Hawaii 11 per cent, the Philippines 9½ per cent. Domestic cane, chiefly from Louisiana, supplied 5 per cent. The domestic sugar beet of the Rocky Mountain States and the Great Lakes region supplied 25 per cent. The balance of 3 per cent was imported from other countries, such as Peru.

Beet Once Led Cane in World Supply

In 1942 a minimum of 5,300,000 tons of sugar will be available to the U. S., according to current estimates of the Office of Price Administration. To scale down to this tonnage Americans will have to cut household consumption one-third to a scant pound a week per person, but more than twice the quota of 1918.

Most of Cuba's 1942 crop must go to Europe and to war uses. Other sources have even less to offer. The Philippine supply, if any, will probably reach enemy hands. Hawaii production will be low. For the first time in sugar history the beet is destined to be the nation's most important single source of supply.

Many residents of eastern United States think of sugar cane as the one source of table sugar. But sugar is a chemical combination of carbon, hydrogen, and oxygen. No taste difference can be detected in pure crystallized sugar from the

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and iron are other valuable minerals deposits of which are found in the islands.

In addition, the power that holds the "emerald belt around the Equator" will have possession of vast tropical food supplies, given extra fillip by Indies spices. Some of the agricultural products, too, are extremely useful war materials. One such is quinine, an important health preserver for the armies now fighting in the far-flung malaria-haunted jungles. Another is kapok, a silk-cotton fiber, valuable for stuffing life preservers. This was the inflammable material that played such a dramatic rôle in the recent fire that foundered the *Normandie*.

In 1939, more than 28 per cent of the crude rubber used by the U. S. came from the Netherlands Indies; 99 per cent of the quinine; and some 20 per cent of the tin imports. U. S. farmers would miss the Indies sisal fiber used in binder twine; housewives would feel the loss of tea from these distant islands.

Before the outbreak of the war in the East, the U. S. greatly increased purchases from the Netherlands Indies. Such imports in 1940 nearly doubled those of the previous year. In return the Indies sharply increased their orders for U. S. goods, including oil drilling and refining machinery, aircraft, automobile vehicles.

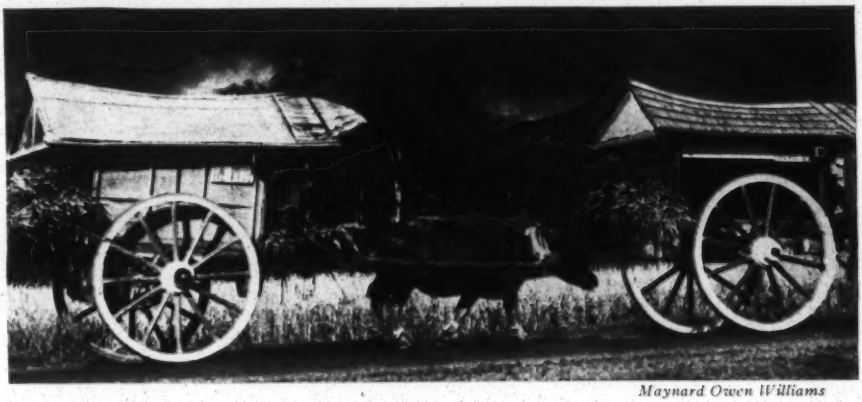
Of the Netherlands Indies population, estimated at slightly less than 70 million in 1939, some 250,000 were Europeans. There were about a million Chinese and 5,000 Japanese. Most of the natives are Mohammedans, with a few millions converted to Christianity, and a million Buddhists.

Modern colonial administration by the Netherlands motherland has been considered increasingly benevolent. The islands are ruled by a Governor-General, assisted by a Council, both nominated by the Queen. Since the reform constitution of 1925, the Indies have had a measure of self-government.

German conquest of the Netherlands in May, 1940, and the flight of the government to London, were swiftly followed by a Netherlands Indies declaration of war on the Reich. War was declared on Japan December 8, 1941.

For further information about the Netherlands Indies, see the following articles in the *National Geographic Magazine*: "Airplanes Come to the Isles of Spice," May, 1941; "Celebes: New Man's Land of the Indies," July, 1940; "Bali and Points East," March, 1939; and "Netherlands Indies: Patchwork of Peoples," June, 1938; and the following GEOGRAPHIC SCHOOL BULLETINS: "Java the Tropical Keystone of Allied Far East Defense," January 26, 1942; and "Netherlands Indies Question Haunts Homeland and Japan," April 1, 1940.

Bulletin No. 1, March 9, 1942.



Maynard Owen Williams

STORM CLOUDS GATHER ABOVE SUMATRA'S BROODING VOLCANOES

The 9,000-foot Marapi volcano (background) and its companion peak, Singgalang, dominate the Padang Highlands in sultry southern Sumatra. Indian corn outranks rice in this region, some 3,000 feet above sea level. The produce of the countryside is offered for sale twice weekly at the outdoor market at the highland town of Fort de Kock, to which farmer folk on foot and buffalo-drawn carts bring poultry, rice wafers, corn, curry, red peppers, and fruit. The two-wheel carts have sway-back roofs and a visor-like shelter for the driver, with upswinging curves like those of the water buffalo's horns.

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New Allied Life Line Across Africa

A "BURMA ROAD" for Africa, or, in fact, a pair of "Burma Roads," may develop from the current improvement of British and Free French roads across Central Africa. News stories have reported the extension and improvement by the Free French of automobile roads in French Equatorial Africa. Thus the way apparently is being prepared for all-weather heavy traffic from the Gulf of Guinea coast, on the Atlantic, across mid-Africa to Khartoum in the Anglo-Egyptian Sudan, and thence to Egyptian battlefields and Eastern supply bases.

Following old caravan tracks and warrior trails, these newly important trans-African routes wind across more than 1,700 miles of oppressively hot equatorial jungles, rolling green grasslands, forested valleys, and desert mountains, to the cottonfields and pasture lands of the Anglo-Egyptian Sudan.

By the "Back Door" to Khartoum

The exact routes over which Allied truck convoys now may carry munitions and supplies are secret, for military reasons. But it is known that one of the "jumping-off places" is the coast of the French Cameroons, where the ports of Douala and Kribi are equipped to handle considerable shipping.

Eastern goal of the roads is Khartoum, capital of the Anglo-Egyptian Sudan, and an important shipping center at the junction of the Blue and White Niles. Khartoum is linked by road, rail, and steamer with Cairo and Alexandria, 1,100 and 1,200 miles down the Nile to the north, and with Port Sudan on the Red Sea.

The key roads in the new transport system apparently are built around two main east-west highways which roughly parallel each other at a distance of about 600 miles: in the north from Fort Lamy, near Lake Chad in northwestern French Equatorial Africa, through Abéché (Abeshr) to El Fasher and Khartoum in the Sudan; and in the south from the Cameroons coast eastward across French Equatorial Africa and the northern Belgian Congo to the southern tip of the Sudan.

Tourist Guidebooks for Some Stretches

There are at least four north-south links between these main east-west roads—three in French Equatorial Africa and one in the Sudan. Most important of these, perhaps, is the road north from Berbérati through Fort Archambault to the Chad-Sudan road near Mongo. Guidebooks for auto tours on certain of these routes have been available for years.

A possible alternative route begins at the large port of Lagos, in palm- and cocoa-rich British Nigeria. From Lagos a road suitable for automobile traffic slices diagonally northeastward for 900 miles to Kano and French Equatorial Africa at Fort Lamy. Seasonal rains impede maintenance of all these roads.

In the French Cameroons an extensive network of roads—totalling more than 3,000 miles—radiates from the highland capital of Yaoundé, and gives the colony one of the best systems of communication in central Africa. Yaoundé also has rail connection with the port of Douala, 100 miles to the west.

Once away from the tangled tropical vegetation of the coastal lowlands, the Cameroons present red earth hills mostly hidden in a dense cover of valuable hardwoods. Parts of the country would remind American travelers of the Deep South of the United States, for the black natives (illustration, next page) work in cotton fields. They also gather peanuts and palm kernels.

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cane and the beet because there is no chemical difference.

The sugar cane and the sugar beet are rivals without other important competition in the world's sugar production. The cane grows abundantly in tropical regions. The beet is cultivated in 27 countries of the North Temperate Zone. Cane dates back to medieval days when Arabs brought sugar from the Orient. All the time Europe was growing beets, but not until 1799 was their sugar unlocked and industrialized; thus the Temperate Zone was made a factor in the sugar business.

Napoleon subsidized the beet, and its crop helped him to prolong the Napoleonic Wars. The Germans, by taxing the beet root rather than the sugar yield, stimulated the development of seed, root, and sugar extracting machinery; the gradual result was an increase in the sugar yield from 5 per cent up to 17 per cent of the beet. By 1900 the beet had forged ahead in the race against cane and had become dominant in the sugar markets of the world. In 1903 the world produced 6,000,000 tons of beet sugar and 4,000,000 tons of cane sugar.

But the sugar beet at best produces two tons of sugar per acre. The cane produces as high as seven tons. The sugar beet is cultivated generally by labor well paid in comparison to the cane-field laborers of the tropics. These two facts for the past 30 years have been economically important in returning the sugar cane to a 2-to-1 leadership over the sugar beet. World production in 1940 totalled 22,000,000 tons of cane sugar and 12,000,000 tons of beet sugar.

The United States, after a few early failures, established the industry about 1890. In 1940 this country ranked third among nations, following Russia and Germany. Colorado, Utah, and Michigan led 19 western states, where 100,000 sugar beet farmers are served by 85 mills. Expansion of the beet sugar industry has been stimulated by tariffs on cane sugar imported from foreign countries.

Bulletin No. 2, March 9, 1942.

"UNDERGROUND" SUGAR OF THE NORTH COMPETES WITH TROPICAL CANE

Acres of sugar beets, turnip-white, are grown at the foot of northern Utah's mountains in the vicinity of Logan. Workers (above) cut the green tops from the huge "silver wedges" and load them on wagons to be carted to the refinery. The almost black beet juice, extracted by several methods, is purified in much the same way as cane juice. Mormons brought the industry to Utah in the 1850's, purchasing their refinery equipment from France.

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Conservation from Head to Heel Saves Clothing from Afar

IN MID-FEBRUARY, the last threads of raw silk in the United States, almost all of it from Japan, were bought or requisitioned by the Government for war use. Instead of stockings, into which 90 per cent of peacetime imports went, the Asiatic fiber will be devoted to Army and Navy needs, chiefly for parachutes.

This final vanishing of silk from the civilian scene is typical of how war needs will affect wardrobes, besides putting millions of men into khaki. From hat to shoe sole the thoughtful citizen will conserve the clothes he has, to relieve pressure on shipping facilities, factories, and supplies useful to the Army and Navy.

Felt hats have hitherto called for mercury in special processing; now the metallic fluid must be diverted to the grim duty of setting off the explosion of bombs and shells, as mercury fulminate. Shoe soles, if made of the heavy cattle hides which the United States needs to import, may have to travel through the submarine zone on their way from Argentina's pampas, the chief foreign source. Shoe leather was a prime requisite for war even before Washington's men went barefoot at Valley Forge. Now, moreover, the chief leather tanning process uses chromium, the same metal needed to toughen armor plate and spread a protective surface over "stainless" forms of steel.

Soldier Needs 100 Pounds of Wool, Half-Bale of Cotton

Today's troops, though motorized, still move on shoe leather; Uncle Sam bought some 15 million pairs for them in 1941. Eight pairs must be earmarked for each rookie. Last year American tanneries processed almost 50 million goat and kid skins for soft shoe "uppers," 99 per cent of which were imported; about nine million cattle hides, largely for sole leather (about one-third imported); and some 17 million calf skins, about one-third imported. The goat and kid skins came from 54 foreign countries and islands, chiefly India, Brazil, and Nigeria; the cattle hides, from 41 countries, with Argentina leading. Sheepskin parkas for pilots, horsehide gloves for soldiers handling barbed wire, Sam Browne belts, and gun slings are among the Army's 150 non-shoe needs for leather.

The very complexion of civilian wardrobes is changing from pre-war ruddiness to paler hues, because dyestuffs have war duties, too. The coal tar industries, which count dyes among their varied products ranging from aspirin to explosives, have grimmer work to do than toy with fashions. Many reds, especially of the magenta type, are produced with toluene, a coal tar product now urgently at work making TNT (trinitrotoluene) for high explosive bombs and shells.

Cotton is the most abundant textile in the United States, where six States produce annually at least a million bales each of "Dixie's Golden Fleece." Men used more than 525 million pounds of it in clothing in a recent year—three times the amount of wool they used—and women, more lightly clothed, donned nearly 300 million pounds. While this textile will remain plentiful, certain weaves will leave civilian life and join the armed forces for the duration.

Osnaburg, a tough cotton fabric similar to burlap, is used for sandbags and

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Eastward across French Equatorial Africa new country is being cultivated by natives who live in mud-and-wattle, windowless, thatched huts (sometimes with tufted tops) in new "row" villages. In some tribes the women wear only bunches of mango leaves, and the men nothing but G-strings. Most of the head-men are set apart from their fellows by European felt hats. The men have spears or muzzle-loading gaspipe guns. With pale-brown dogs they go hunting to shoot leopards and soft-nosed antelopes. Traders deal in cotton and coffee, and more exotic commodities like ivory, pygmy deer hides, and beeswax.

The northern road, from shrinking Lake Chad to the Sudan, traverses transitional country between the forest and savannah terrain of the Ubangi-Shari region and the true Sahara to the north. Here patches of woods alternate with a steppe-and-desert landscape of sandy prairies mottled with sparse bush growth. On the rocky range land natives guard flocks of cattle, camels, horses, and ostriches.

From eastern French Equatorial Africa and the northeastern Belgian Congo passable auto roads have for some time reached the upper Nile River in the Southern Anglo-Egyptian Sudan around Juba, which is only about 100 miles north of the Sudan border. River steamers run down the Nile from Juba about 800 miles to Khartoum.

The fertile, forested southern Sudan west of the Nile merges into steppe regions which, in turn, give way northward to barren desert. The highway from Lake Chad skirts the desert, sweeping eastward toward Khartoum through the province of Kordofan. This is one of the three great gum arabic producing regions which make the Sudan the chief source of the world's supply of that substance, used in gum drops, mucilage, and glazing for paper.

Bulletin No. 3, March 9, 1942.

John W. Vandercook

CAMEROON CHILDREN MAY SEE MODERN TRUCKS PASS THEIR MUD-AND-GRASS HOUSES

In the French Cameroons, transportation for most of the people has not yet progressed from the barefoot to the donkey-ride stage. Yet these inland Africans may see the most modern type of supply route begin to operate past their front doors. At Tinguéré, a plateau town ruled by a Negro sultan of Moslem faith, these children hitherto have had little contact with modern mechanics; they stare in wonder at the photographer and his camera. Their education is limited practically to the precepts of the Koran, as the entire Cameroons Protectorate has only one kindergarten and barely 200 teachers for all schools. The boys' home is clean and relatively comfortable, with thick earthen walls, shaggy grass roof thatched haystack-style, and partitions of plaited grass mats.

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Rugged Baja California Guards Mexico

WAR in the Pacific and Pan American unity have created a defensive alert along North America's coast not only in the United States, but also in a continuous line southward on Latin American neighbor shores. The Pacific defenses of Mexico were strengthened by an unusual good-neighbor procedure when Mexican troops passed through United States territory to reinforce Baja California. There is no Mexican railway link around the head of the Gulf of California between mainland Mexico and the big Mexican peninsula to the west.

Long, fingerlike Baja California (Lower California) is more than half as large as populous California, which lies directly north across the U. S. border, but it is so arid, rugged, and isolated that fewer than 100,000 people live there.

"California" First Applied to Long Peninsula

Reaching southward 760 miles from the U. S. border at the State of California, Baja California is 30 to 150 miles wide, with a mountain chain filling most of its breadth. One peak in the pine-wooded San Pedro Martir Mountains rises above 10,000 feet; most of the ranges are much lower.

Spaniards first applied the name "California" to this peninsula and later gave it to the great coastal State to the north.

Only small-scale attempts have been made as yet to exploit the gold, silver, copper, and other mineral resources of Baja California's cactus-spiked hills and the rich fisheries of its coastal waters. In a few places, where copious springs provide water for irrigation, crops thrive, such as wheat, sugar cane, grapes, beans, cotton, chilies, and fruits. Rain is rare in many regions.

Only in the extreme north are there good roads and some miles of railroad. The easiest, and often the only, way to reach points in the southern part of the peninsula is by boat. Yet good harbors are few; the best anchorages are in Magdalena Bay and in the harbors of Cape San Lucas, on the southernmost tip, and La Paz on the east coast.

American and Japanese Fishermen Frequented Coasts

The crescent-shaped bay of Cape San Lucas is almost always alive with anchored small craft, from fishing boats to pleasure yachts from the United States' west coast. An excellent tuna cannery at Cape San Lucas gives employment to many people in the region. Whenever a fish boat comes in, a siren sounds and workers throng to the cannery.

Baja California fishermen in peace time include Dalmatians, Japanese, and Americans as well as Mexicans. Their chief prize is the shark, valued for the liver which can be sold for a valuable oil used in vitamin products for human and animal nutrition. They also dry the shark meat and fins for Chinese and Mexican markets. To capture the big fish, fishermen anchor setlines far out at sea, with barrels for floats. They also take vast quantities of tuna, mackerel, and sardines along the west coast. La Paz, capital of the southern territory of Baja California, is the center of pearl fishing activities.

Around Mexicali, capital of northern Baja California, spread the fertile irrigated delta plains of the Mexican part of Imperial Valley, watered by the Colorado River, which flows into the head of the Gulf of California. The Imperial

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camouflage; the Government ordered 200 million yards of it in January alone. White duck for the Navy, khaki twills and gabardine for the Army are among the cottons used for uniforms. Fine, tight-woven cottons take to the air as airplane cloth on planes' movable wing and rudder surfaces, and as cargo parachutes.

Next to cotton, the stand-by textile is rayon, which the United States since 1919 has led the world in making (except when Japan got ahead in 1937). In addition to normal needs (70 million pounds a year for women's dresses alone), rayon must help substitute for wool, supply Latin America as a good-neighbor export, and carry heavy defense burdens. For example, high-strength rayon now serves to make tires last longer, to make self-sealing gas tanks for planes, "jump suits" for paratroops, and small parachutes for flares or bombs.

Wool used for clothing in the United States averages nearly five pounds a year per person. The nation's sheep yield between 400 and 450 million pounds. In the past decade, to supplement this, 25 per cent of the clothing wool and all the carpet wool has been imported. These imports (360 million pounds in 1940) came chiefly from the woolly Southern Hemisphere—Argentina, Australia, and New Zealand, and South Africa. The armed forces, however, need 100 pounds of wool a year for each man. A Navy trousseau, for example, includes eleven-ounce blue flannel, sixteen-ounce blue melton, and thirty-ounce blue kersey. To allow for increased military needs and for wartime hazards of long sea lanes, civilian clothing is combining wool with rayon or cotton in proportions that give the maximum of warmth. New wool is being stretched with "re-used" wool (from used clothing after a carbonizing process to make it sanitary) and "re-processed" wool. The latter, far from "second-hand," is wool that has been made into fabric but not into clothes; a garnetting machine tears the fabric apart so that the threads can be re-woven.

Bulletin No. 4, March 9, 1942.

Federico Kohlmann

ARGENTINE LAMBS GIVE U. S. DEFENDERS GOOD-NEIGHBORLY DEFENSE FROM COLD

Warm cooperation in Uncle Sam's war effort comes from Argentina in the form of wool—a third or fourth of all wool imported by the U. S. The 1939 imports from Argentina, 67,621,000 pounds, were valued at nearly 12 million dollars. Safeguarding their flocks, Argentine sheep owners earmark their animals instead of branding them. With a tool like a ticket punch, a star, circle, or other distinctive shape is punched in the animal's ear.

Valley canal runs for 60 miles through Mexican territory. Cotton is the chief crop, and the farmers are for the most part Chinese.

Explored 403 Years Ago

Tijuana, just over the border from California's San Diego, and Ensenada, 65 miles to the south, are resorts popular with Americans.

By order of Cortés, the coast of Baja California was explored by Francisco de Ulloa in 1539. The earliest white communities there grew up around Jesuit and Dominican missions.

An American expedition, led by the famous filibusterer William Walker, seized La Paz in 1853 and proclaimed an independent republic. But the next year his band broke up during an attempted invasion of Sonora.

Note: For further information on Baja California, see the following articles in the *National Geographic Magazine:* "Cruise of the *Kinkajou*," September, 1941; and "Adventuring Down the West Coast of Mexico," November, 1922.

See also the GEOGRAPHIC SCHOOL BULLETINS for March 27, 1939: "Baja California: Mexico's Flowering Desert."

Baja California may be located on the National Geographic Society's Map of Mexico, Central America, and the West Indies, and on the Map of the United States which was issued as a supplement to the *Magazine*, December, 1940. A price list of maps may be obtained from the Society's headquarters in Washington, D. C.

Bulletin No. 5, March 9, 1942.

Alfred M. Bailey

THE BAJA CALIFORNIA PENINSULA BRISTLES WITH CACTUS FORESTS

In untraversed areas of southern Baja California, the tangle of cactus forests is thick enough to tear clothing. Near settlements, grazing cattle have made paths. The giant cardon cacti grow tree-size, 20 to 30 feet in height. Forbidding to man, the tall spikes invite vultures to sun themselves and offer homes to perky woodpeckers, which nest in holes in the cactus. A peculiar animal inhabitant of Baja California's coastal islands is the rare elephant seal, named for its strange snout sometimes more than a foot long.

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